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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT : Roland Van Gelder et al.
SERIAL NO. : 10/616,257 EXAMINER : Andrew T. Sever
FILED : July 9, 2003 ART UNIT : 2851
FOR : COLOR VIDEO PROJECTION DISPLAY SYSTEM WITH LOW-
RETARDANCE COMPENSATOR FILM FOR IMPROVED CONTRAST

APPEAL BRIEF TRANSMITTAL LETTER

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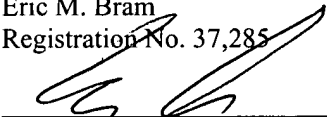
Dear Sir:

Appellants respectfully submit three copies of a Brief For Appellants that includes an Appendix with the pending claims. The Appeal Brief is now due on December 15, 2004.

Appellants enclose a check in the amount of \$500.00 covering the requisite Government Fee.

Should the Examiner deem that there are any issues which may be best resolved by telephone communication, kindly telephone Applicants undersigned representative at the number listed below.

Respectfully submitted,
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By: 
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Date: December 15, 2004

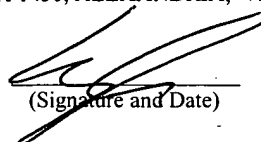
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Steve Cha, Reg. No. 44,069
(Name of Registered Rep.)


(Signature and Date)



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Before the Board of Patent Appeals and Interferences

In re the Application

Inventor : Roland Van Gelder et al.

Application No. : 10/616,257

Filed : July 9, 2003

**For : COLOR VIDEO PROJECTION DISPLAY WITH
LOW-RETARDANCE COMPENSATOR FILM FOR
IMPROVED CONTRAST**

APPEAL BRIEF

On Appeal from Group Art Unit 2851

Date: December 15, 2004

**Eric M. Bram
Registration No. 37,285
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I. REAL PARTY IN INTEREST

The real party in interest is the assignee of the present application, Koninklijke Philips Electronics, N.V., and not the party named in the above caption.

II. RELATED APPEALS AND INTERFERENCES

With regard to identifying by number and filing date all other appeals or interferences known to Appellant which will directly effect or be directly affected by or have a bearing on the Board's decision in this appeal, Appellant is not aware of any such appeals or interferences.

III. STATUS OF CLAIMS

Claims 1-13 and 16-19 have been presented for examination. All of these claims are pending, stand finally rejected, and form the subject matter of the present appeal. Claim 14 is being canceled in the Amendment after Final Office Action being filed concurrently with the instant Appeal Brief.

IV. STATUS OF AMENDMENTS

The Amendment after the Final Office Action filed August 30, 2004 has not been entered. An Amendment after Final Office Action is being filed concurrently with the instant Appeal Brief.

V. SUMMARY OF THE INVENTION

The present invention is directed to a system for projecting color video onto a display screen (page 7, lines 22-25; FIGs. 1 and 2). Referring to FIG. 1 which shows the first embodiment, a light source 102 generates light of one or more designated colors. The light is transmitted, along an input optical path, through a polarizer 110 and at least one low-retardance film 125 (page 4, lines 17-21; page 7, lines 12-22). The light is then incident upon a liquid crystal display (LCD) panel, which modulates the light according to signals from a signal source (page 7, lines 17-22). The LCD may be a liquid crystal on silicon (LCoS) panel, and is reflective in this embodiment, although it may instead be transmissive (Abstract, 2nd sentence). The modulated light is reflected along an output optical path, and through a polarizer 112, toward a projection element 106. The light passes through the projection element 106 and forms an image on a display 120 (page 7, lines 22-25). In a second embodiment, shown in FIG. 2, the at least one low-retardance film 125 is absent from the input optical path and, instead, at least one low-retardance film 225 resides in the output optical path (page 10, lines 12-18; 4, lines 17-23: “In accordance with one aspect of the invention, the contrast ratio is improved through the use of a low-retardance film placed in an optical path of the system either on an input optical path between an input optical path polarizer and a reflective or transmissive panel or on an output optical path between the reflective or transmissive panel and an output optical path polarizer”[underlining added for emphasis]; Abstract, next to last sentence: “At least one low-retardance film is arranged within one of (i) the input optical path of the system between an input optical path polarizer and the panel, and (ii) the output

optical path of the system between the panel and an output optical path polarizer, so as to increase a contrast ratio of the viewable display” [underlining added for emphasis]).

The film 125, 225 improves the contrast ratio in the displayed image (page 4, lines 17-23). The contrast ratio refers to the ratio of a black image to a white image (page 3, lines 17-20). A prior art technique uses a combination of two high-retardance films is very difficult to optimize (page 4, lines 1-5). Moreover, the use of two films unduly increases the cost and complexity of the system (page 4, lines 5-9).

VI. ISSUES

1. Whether claims 1-9, 11, 12 and 16-19 are obvious under 35 U.S.C. 103(a) over U.S. Patent No. 5,576,854 to Schmidt et al. (“Schmidt”).
2. Whether claim 10 is obvious under 35 U.S.C. 103(a) over Schmidt in view of U.S. Patent No. 5,986,815 to Bryars.
3. Whether claim 13 is obvious under 35 U.S.C. 103(a) over Schmidt in view of U.S. Patent No. 5,875,008 to Takahara et al. (“Takahara”).

VII. GROUPING OF CLAIMS

Claims 1-9, 11, 12, 16-19 stand or fall together. Claim 10 stands or falls alone. Claim 13 stands or falls alone.

VIII. ARGUMENT

Rejection of claims 1-9, 11, 12, 16-19 under 35 U.S.C. 103(a)

As to claim 1, the Schmidt reference fails to disclose or suggest “an input optical path polarizer” or an “output optical path polarizer” which terms both explicitly appear in claim 1 of the present invention.

The Schmidt polarizing surface 22, by contrast, polarizes light both headed toward the light valve and returning from the light valve (e.g., col. 4, lines 58-63; col. 5, lines 53-55). Accordingly, the Schmidt polarizing surface 22 cannot fairly be characterized as either of the polarizers of the present claim 1 or as both polarizers.

Moreover, even if the Schmidt polarizing surface 22 were deemed to be one or both of the polarizers of the present claim 1, claim 1 recites:

at least one low-retardance film arranged within one of (i) the input optical path of the system between an input optical path polarizer and the at least one panel and (ii) the output optical path of the system between the at least one panel and an output optical path polarizer

In the context of claim 1, the reference in the quote above to “one of” cannot properly be construed as referring to two. Yet, the Office Action appears to be attempting interpret the above phrase “one of” in claim 1 of the present invention as meaning two.

The Office Action, though silent on the matter, presumably regards the “at least one panel” of the present claim 1 as corresponding to the liquid crystal light valve (LCLV) 28 in Schmidt. Notably, however, the Schmidt quarter-wave plate 26, which the Office Action deems to be the “at least one low-retardance film” of claim 1, is arranged within the path to and from the Schmidt LCLV 28. For at least this reason, it is unclear which “one of” the

alternatives in claim 1, i.e., (i) or (ii), the Office Action suggests as being disclosed in Schmidt.

The Advisory Action purports to address one of the points raised above by suggesting that claim 1 fails to specify that the “at least one low-retardance film” is “within” either “the input optical path” or “the output optical path” but not both.

The Manual of Patent Examining Procedure (MPEP) notes, “Alternative expressions using “or” are acceptable, such as “wherein R is A, B, C, or D.” MPEP 2173.05(h)(II).

This is not to say, however, that all uses of the word “or” in a patent claim are appropriate.

Thus, if a claim specifies that a widget is “in the input path or the output path,” it may be unclear whether the widget can be within both paths. If the “or” is an “exclusive or,” the widget is in either one path or the other, but not in both. On the other hand, if the “or” is an “inclusive or,” the widget may be within either path or both. It may or may not be clear from context whether the word “or” in a claim is being used in the “exclusive or” sense or in the “inclusive or” sense. It is not proper to use the word “or” in claim if it is not clear in which of these two senses the word “or” is being used, i.e., as an “exclusive or,” or as an “inclusive or.”

To avoid this potential difficulty, the concept of an exclusive or is often conveyed in a patent claim by specifying that the widget is in “one of the input path and the output path.”

The present claim 1 recites:

at least one low-retardance film arranged within one of (i) the input optical path of the system between an input optical path polarizer and the at least

one panel and (ii) the output optical path of the system between the at least one panel and an output optical path polarizer

According to the above analysis, the Advisory Action is incorrect in suggesting that the present claim 1 fails to specify that the “at least one low-retardance film” is “within” either “the input optical path” or “the output optical path” but not both.

Since Schmidt discloses using what the Examiner deems to be the “film” of claim 1 within the path to and from the Schmidt LCLV 28, Schmidt fails to disclose the above-quoted feature of the present claim 1.

In fact, the use in claim 1 of the expression “at least one low-retardance film arranged within one of” emphasizes the fact that the phrase “one of” differs from the phrase “at least one of.” If the phrase “at least one of” were intended, that phrase would have appeared in claim 1. However, claim 1 recites, instead, “one of (i) . . . and (ii), which stands in stark contrast to the Schmidt disclosure of a quarter-wave plate 26 within the path to and from the Schmidt LCLV 28.

For at least all of the reasons set forth above, Schmidt fails to anticipate the present invention as recited in claim 1.

The applicants note, in addition, that, since Schmidt would be inoperable without the second incidence upon the quarter-wave plate 26 (col. 4, line 63 – col. 5, line 5), it is unclear how Schmidt could be modified to resemble the present claim 1. For at least these reasons, it is unclear how it fairly could be said that Schmidt renders obvious the present invention as recited in claim 1.

Claims 2-9, 11, 12, 16 and 17 all depend from claim 1 and are deemed to be patentable over the cited reference for at least the same reasons set forth above with regard to claim 1.

Claims 18 and 19 are system and method claims that both recite the same above-quoted feature of claim 1, and are likewise deemed to be patentable over the cited reference.

Rejection of claim 10 under 35 U.S.C. 103(a)

Claim 10 depends from claim 1, and the Bryars reference cannot compensate for the shortcomings of Schmidt.

Item 3 of the Office Action cites to lines 38-42 of col. 19 in Bryars, but this passage refers to waveplate retarders 80, 100, 120 each of which, as in the case of the Schmidt reference, is present both in the incident light path to the LCLV and in the reflected light path from the LCLV (col. 12, lines 5-8(9)). Like Schmidt, Bryars specifically designs its optical system so that light is double-passed (col. 5, line 51: "double-passed") through a waveplate retarder in a single optical path. For at least these reasons, the Bryars reference fails to further the proposition being offered by the Office Action. Accordingly, the proposed combination of prior art fails to render obvious the invention as recited in claim 10.

Rejection of claim 13 under 35 U.S.C. 103(a)

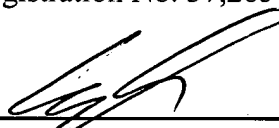
Claim 13 depends from claim 1. Takahara is disclosed in item 6 of the Office Action for its disclosure of a diacetate plate, but cannot make up for the deficiencies in Schmidt or Bryars. For at least this reason, the proposed combination fails to render obvious the present invention as recited in claim 13.

IX. CONCLUSION

In view of the above analysis, it is respectfully submitted that the referenced teachings, whether taken individually or in combination, fail to anticipate or render obvious the subject matter of any of the present claims. Therefore, reversal of all outstanding grounds of rejection is respectfully solicited.

Respectfully submitted,

Eric Bram
Registration No. 37,285

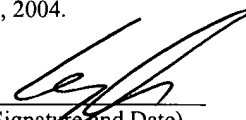

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Date: December 15, 2004

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Steve Cha, Reg. No. 44,069
(Name of Registered Rep.)


(Signature and Date)

X. APPENDIX: THE CLAIMS ON APPEAL

1. An apparatus for use in a color video projection display system, the apparatus comprising: at least one panel arranged within the system to receive via an input optical path incident light of one or more designated colors generated from a light source, the panel modulating the incident light of at least one of the colors in accordance with a corresponding applied signal, modulated incident light of the one or more colors being directed within the system from the panel via an output optical path so as to generate a viewable display of the system; and at least one low-retardance film arranged within one of (i) the input optical path of the system between an input optical path polarizer and the at least one panel and (ii) the output optical path of the system between the at least one panel and an output optical path polarizer, so as to increase a contrast ratio of the viewable display.

2. The apparatus of claim 1 wherein the color video projection display system comprises a reflective system having at least one reflective panel.

3. The apparatus of claim 1 wherein the color video projection display system comprises a transmissive system having at least one transmissive panel.

4. The apparatus of claim 1 wherein the color video projection display system comprises an on-axis system.

5. The apparatus of claim 1 wherein the color video projection display system

comprises an off-axis system.

6. The apparatus of claim 1 wherein the color video projection display system comprises a single-panel projection display system having a single reflective panel and a single corresponding low-retardance film associated therewith.

7. The apparatus of claim 1 wherein the color video projection display system comprises a single-panel projection display system having a single transmissive panel and a single low-retardance film associated therewith.

8. The apparatus of claim 1 wherein the color video projection display system comprises a three-panel projection display system having first, second and third panels, each associated with respective red, green and blue portions of the incident light.

9. The apparatus of claim 8 wherein a single low-retardance film is associated with all three of the panels and is arranged in an input optical path of the system at a point prior to separation of the incident light into the one or more designated colors for application to the panels.

10. The apparatus of claim 8 wherein each of the three panels has associated therewith a corresponding single low-retardance film arranged within one of (i) the input optical path of the system between an input optical path polarizer and the panel and (ii) the output optical path of the system between the panel and an output optical path

polarizer.

11. The apparatus of claim 1 wherein the at least one panel comprises a reflective panel and a single low-retardance film associated with the reflective panel is arranged within an input optical path of the system between the input optical path polarizer and the reflective panel.

12. The apparatus of claim 1 wherein the at least one panel comprises a reflective panel and a single low-retardance film associated with the reflective panel is arranged within an output optical path of the system between the reflective panel and the output optical path polarizer.

13. The apparatus of claim 1 wherein the single low-retardance film comprises a diacetate film.

16. The apparatus of claim 1 wherein the panel comprises a liquid crystal display (LCD) panel.

17. The apparatus of claim 1 wherein the panel comprises a liquid crystal on silicon (LCoS) display panel.

18. A color video projection display system comprising: a light source from which incident light of one or more designated colors is generated; at least one panel

arranged within the system to receive via an input optical path the incident light of one or more designated colors, the panel modulating the incident light of at least one of the colors in accordance with a corresponding applied signal; a projection element arranged within the system so as to receive modulated incident light of the one or more colors directed within the system from the panel via an output optical path, the projection element generating a viewable display of the system; and at least one low-retardance film arranged within one of (i) the input optical path of the system between an input optical path polarizer and the at least one panel and (ii) the output optical path of the system between the at least one panel and an output optical path polarizer, so as to increase a contrast ratio of the viewable display.

19. A method for use in a color video projection display system, wherein the system includes at least one panel arranged within the system to receive via an input optical path incident light of one or more designated colors, the panel modulating the incident light of at least one of the colors in accordance with a corresponding applied signal, modulated incident light of the one or more colors being directed within the system from the panel via an output optical path so as to generate a viewable display of the system, the method comprising the step of: arranging at least one low-retardance film within one of (i) the input optical path of the system between an input optical path polarizer and the at least one panel and (ii) the output optical path of the system between the at least one panel and an output optical path polarizer, so as to increase a contrast ratio of the viewable display.